

## Claims

[c1] A method of preparing a therapeutic composition for the treatment and diagnosis of tumors and malignancies comprising:

a) providing a molecule that is taken up by a cell comprising

i. a tumor-seeking biomolecule;

ii. an intercalating moiety coupled to said tumor-seeking biomolecule; and

iii. a metal compound complexed to said intercalating moiety;

and;

b) using said molecule for the preparation of a therapeutic composition for the treatment and diagnosis of tumors and malignancies.

[c2] The method of claim 1 wherein said metal compound is a radioactive metal.

[c3] The method of claim 2 wherein the tumor-seeking biomolecule is selected from the group consisting of somatostatin-, neurotensin-, bombesin-receptor binding molecules, antibodies, penetratines™, and molecules binding to the GPIIb/IIIa receptors.

- [c4] The method of either of claims 2 or 3 wherein intercalating agent is an aromatic molecule with an intercalative binding affinity for double-stranded DNA.
- [c5] The method of claim 4 wherein wherein the intercalating agent is selected from the group consisting of acridine, porphyrin, ellipticine, phenantroline, carbazole, benzimidazole or compounds with known cytostatic activity (antibiotics) from the class of tetracyclines (anthracyclines), such as daunorubicine, epirubicine or mixoxantrone.
- [c6] The method of either of claims 2 or 3 wherein the radioactive metal is a  $\gamma$ -emitting nuclide.
- [c7] The method of claim 4 wherein the radioactive metal is a  $\gamma$ -emitting nuclide.
- [c8] The method of claim 5 wherein the radioactive metal is a  $\gamma$ -emitting nuclide.
- [c9] The method of claim 6 wherein the radioactive metal is selected from the group consisting of Tc-99m, Re-186, Re-188 and Mn.
- [c10] The method of claim 2 wherein the molecule has the general structural formula as given in FIG. 2.

- [c11] The method of claim 2 wherein the molecule has any one of the structures as shown in FIG. 1.
- [c12] A therapeutic composition, comprising one or more molecules as claimed in claim 2 and one or more suitable excipients.
- [c13] A diagnostic composition, comprising one or more molecules as claimed in claim 2 in a suitable carrier.
- [c14] A compound comprising
- (a) a biomolecule selected from the group consisting of somatostatin, neurotensin, bombesin–receptor binding molecules, antibodies, penetratines™, and molecules binding to GPIIb/IIIa receptors; coupled to
  - (b) an aromatic intercalating moiety with binding affinity for double–stranded DNA selected from the group consisting of acridine, porphyrin, ellipticine, phenantroline, carbazole, benzimidazole, and tetracycline compounds with cytostatic activity; which is complexed to
  - (c) a  $\gamma$ –emitting radioactive metal selected from Tc–99m, Re–186, Re–188 and Mn.
- [c15] The method of claim 1 wherein the tumor–seeking biomolecule is selected from the group consisting of somatostatin–, neurotensin–, bombesin–receptor binding

molecules, antibodies, penetratines™, and molecules binding to the GPIIb/IIIa receptors.

- [c16] The method of either of claims 1 or 15 wherein intercalating agent is an aromatic molecule with an intercalative binding affinity for double-stranded DNA.
- [c17] The method of claim 16 wherein wherein the intercalating agent is selected from the group consisting of acridine, porphyrin, ellipticine, phenantroline, carbazole, benzimidazole or compounds with known cytostatic activity (antibiotics) from the class of tetracyclines (anthracyclines), such as daunorubicine, epirubicine or mixoxantrone.
- [c18] The method of claim 1 wherein the molecule has the general structural formula as given in FIG. 2.
- [c19] The method of claim 1 wherein the molecule has any one of the structures as shown in FIG. 1.
- [c20] A therapeutic composition, comprising one or more molecules as claimed in claim 1 and one or more suitable excipients.
- [c21] A diagnostic composition, comprising one or more molecules as claimed in claim 1 in a suitable carrier.